



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,060	05/30/2006	Masaharu Kawakubo	127873	6788
25944	7590	06/24/2010	EXAMINER	
OLIFF & BERRIDGE, PLC			RIDDLE, CHRISTINA A	
P.O. BOX 320850				
ALEXANDRIA, VA 22320-4850			ART UNIT	PAPER NUMBER
			2882	
			NOTIFICATION DATE	DELIVERY MODE
			06/24/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction25944@oliff.com  
jarmstrong@oliff.com

<b><i>Supplemental Notice of Allowability</i></b>	<b>Application No.</b> 10/581,060	<b>Applicant(s)</b> KAWAKUBO ET AL.
	<b>Examiner</b> Christina Riddle	<b>Art Unit</b> 2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTO-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to notice of allowance mailed 6/01/2010.

2.  The allowed claim(s) is/are 31, 33-35, 37-39, 42-44, 49-52, 54-57, 61.

3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All    b)  Some\*    c)  None    of the:

1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.

(a)  including changes required by the Notice of Draftperson's Patent Drawing Review ( PTO-948) attached  
1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_.

(b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of  
Paper No./Mail Date \_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_.
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_.

/C. R./  
Examiner, Art Unit 2882

**DETAILED ACTION**

***Status***

1. The previous Notice of Allowance mailed 6/01/2010 contained a typographical error regarding the numbers of claims allowed in the Notice of Allowability. The error has been corrected in this supplemental Notice of Allowance, and the Examiner apologizes for any inconveniences caused by this error. Thus, claims 31, 33-35, 37-39, 42-44, 49-52, 54-57, and 61 are allowed as noted below (and previously in the Office Action mailed 6/01/2010) and on the corrected Supplemental Notice of Allowability.

***Allowable Subject Matter***

2. Claims 31, 33-35, 37-39, 42-44, 49-52, 54-57, and 61 are allowed.
3. The following is an examiner's statement of reasons for allowance:

**Regarding claims 31, 50, and 61,** the prior art of record, either alone or in combination, fails to teach or render obvious an exposure apparatus and method for exposing multiple lots under a specific process by calculating an estimate value of position of multiple shots on a wafer by using a statistical computation using actual measurement values of positional information for a number of specific shots selected from the shots on the wafer and creating correction information used to correct a non-linear component of positional deviation of each of the shots based on an actual measurement value of positional information of the measured shots and on the corresponding measurement value, and updating the correction information as needed

in accordance with a magnitude of one of a calculated non-linear component of deviation amount of the measured shots and a variation amount of the non-linear component within a threshold but not updating the correction amount with respect to the remaining lots for multiple lots processed. These limitations in combination with the other limitations of claims 31, 50, and 61 render the claims non-obvious over the prior art of record.

The dependent claims are likewise allowable by virtue of their dependency upon allowable independent claims as stated above.

Kikuchi (US PGPub 2002/0042664) describes calculating an estimate value of positional information for shots on a wafer (para. [0185] and step 310 of Fig. 5) and creating correction information to correct a non-linear component of the positions of the shots (Fig. 5, step 312). However, Kikuchi does not disclose updating the correction information as needed.

Upon further consideration, Tomimatu (US Patent No. 6,338,925) discloses updating information as needed (Fig. 3, step 22, the obsolescence of data is used to determine whether to update information for further processing of lots), but does not disclose not updating the correction information with respect to the remaining lots since once the parameters are updated and stored for one m-th lot, the non-obsolete parameter values are used until obsolescence is again detected (Fig. 3, steps 28-Fig. 4, step 42).

Further, Irie et al. (US Patent No. 5,808,910) discloses calculating a magnitude of non-linear error (Fig. 11, step 206, 210, and 211, the absolute value of the calculated

Art Unit: 2882

non-linear error is compared to a predetermined value), but Irie does not disclose updating the correction information in accordance with a magnitude of one of the non-linear component of each shot and a variation amount of the non-linear component within a threshold, but not updating the information for the remaining lots.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Riddle whose telephone number is (571)270-7538. The examiner can normally be reached on Monday- Thursday 7:00-17:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on (571)272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter B. Kim/  
Primary Examiner, Art Unit 2882

/C. R./  
Examiner, Art Unit 2882